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(FILE 'HOME' ENTERED AT 16:35:56 ON 18 AUG 2004)

FILE 'STNGUIDE' ENTERED AT 16:36:05 ON 18 AUG 2004

FILE 'HOME' ENTERED AT 16:36:10 ON 18 AUG 2004

FILE 'REGISTRY' ENTERED AT 16:36:18 ON 18 AUG 2004

L1 STRUCTURE UPLOADED

L2 0 S L1

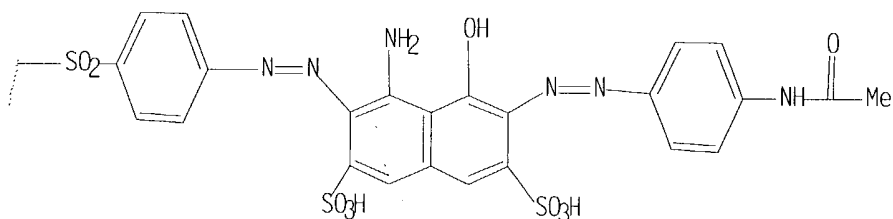
L3 1 S L1 FULL

FILE 'CAPLUS' ENTERED AT 16:36:56 ON 18 AUG 2004

L4 1 S L3

=> d que 14 stat

L1 STR



Structure attributes must be viewed using STN Express query preparation.

L3 1 SEA FILE=REGISTRY SSS FUL L1

L4 1 SEA FILE=CAPLUS ABB=ON PLU=ON L3

=> d ibib iabs hitstr

L4 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2004:589281 CAPLUS

TITLE: Reactive blue dye containing a vinyl sulfone group and its preparation

INVENTOR(S): Oh, Sea-wha; Kim, Young-suk; Kim, Jinsoo; Kim, Tae Kyung; Kim, Sun Il

PATENT ASSIGNEE(S): Korea Research Institute of Chemical Technology, S. Korea

SOURCE: U.S. Pat. Appl. Publ., 6 pp.

CODEN: USXXCO

DOCUMENT TYPE: Patent

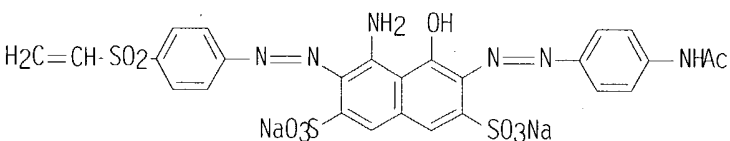
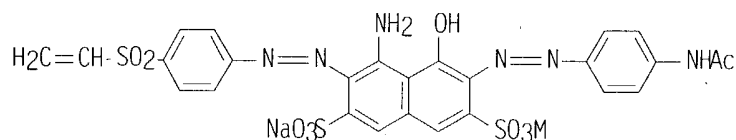
LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2004143106	A1	20040722	US 2003-661491	20030915
PRIORITY APPLN. INFO.:			KR 2003-3489	A 20030118

GRAPHIC IMAGE:



ABSTRACT:

A reactive blue dye (I), wherein M = H or alkali metal atom, is prepared by (1) diazotization of 4-aminophenyl vinylsulfone and then first coupling with 1-naphthol-8-amino-3,6-disulfonic acid at 5-10° and pH of 1-2 and (2) diazotization of 4-aminoacetanilide and then second coupling with the product in (1) at 5-10° and pH of 6.5-7.5. Thus, 4-aminophenyl vinylsulfone was diazotized 1-naphthol-8-amino-3,6-disulfonic acid and then coupling with 1-naphthol-8-amino-disulfonic acid at 0-5°, and the product was coupling with diazotized 4-aminoacetanilide to obtain a reactive blue dye (II).

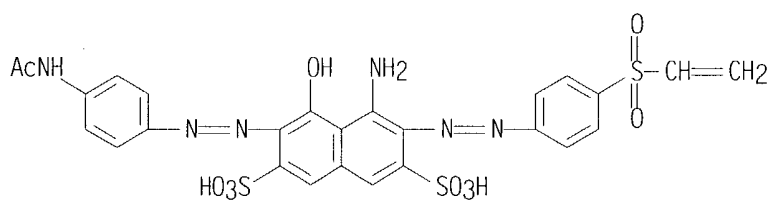
IT 724776-14-1P

RL: IMF (Industrial manufacture); PREP (Preparation)

(preparation of reactive blue dye containing a vinyl sulfone group)

RN 724776-14-1 CAPLUS

CN 2,7-Naphthalenedisulfonic acid, 3-[[4-(acetylamino)phenyl]azo]-5-amino-6-[[4-(ethenylsulfonyl)phenyl]azo]-4-hydroxy-, disodium salt (9CI) (CA INDEX NAME)



● 2 Na

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L1 STRUCTURE UPLOADED
L2 0 S L1
L3 1 S L1 FULL

FILE 'CAPLUS' ENTERED AT 16:36:56 ON 18 AUG 2004

L4 1 S L3
E OH SEA/AU
L5 19 S E9
E KIM YOUNG SUK/AU
L6 118 S E3
E KIM JINSOO/AU
L7 29 S E3
E KIM TAE KYUNG
E KIM TAE KYUNG/AU
L8 69 S E3
E KIM SUN IL/AU
L9 57 S E3
L10 281 S L5 OR L6 OR L7 OR L8 OR L9
L11 8 S L10 AND REACTIVE(L)DYE

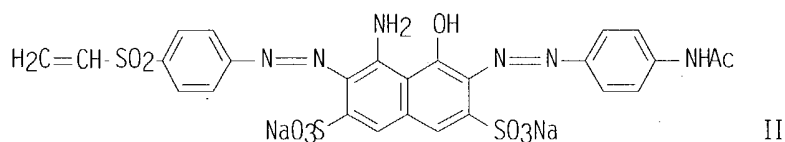
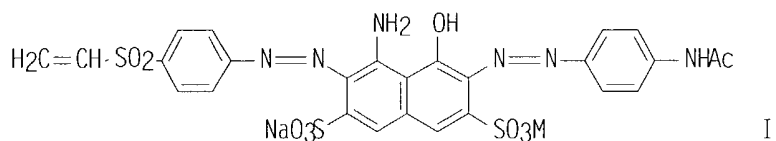
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L5 19 SEA FILE=CAPLUS ABB=ON PLU=ON "OH SEA WHA"/AU
L6 118 SEA FILE=CAPLUS ABB=ON PLU=ON "KIM YOUNG SUK"/AU
L7 29 SEA FILE=CAPLUS ABB=ON PLU=ON "KIM JINSOO"/AU
L8 69 SEA FILE=CAPLUS ABB=ON PLU=ON "KIM TAE KYUNG"/AU
L9 57 SEA FILE=CAPLUS ABB=ON PLU=ON "KIM SUN IL"/AU
L10 281 SEA FILE=CAPLUS ABB=ON PLU=ON L5 OR L6 OR L7 OR L8 OR L9
L11 8 SEA FILE=CAPLUS ABB=ON PLU=ON L10 AND REACTIVE(L)DYE

=> d 1-8 bib abs

L11 ANSWER 1 OF 8 CAPLUS COPYRIGHT 2004 ACS on STN
 AN 2004:589281 CAPLUS
 TI **Reactive blue dye** containing a vinyl sulfone group and
 its preparation
 IN Oh, Sea-wha; Kim, Young-suk; Kim, Jinsoo;
 Kim, Tae Kyung; Kim, Sun Il
 PA Korea Research Institute of Chemical Technology, S. Korea
 SO U.S. Pat. Appl. Publ., 6 pp.
 CODEN: USXXCO
 DT Patent
 LA English
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2004143106	A1	20040722	US 2003-661491	20030915
PRAI	KR 2003-3489	A	20030118		
GI					



AB A **reactive blue dye** (I), wherein M = H or alkali metal atom, is prepared by (1) diazotization of 4-aminophenyl vinylsulfone and then first coupling with 1-naphthol-8-amino-3,6-disulfonic acid at 5-10° and pH of 1-2 and (2) diazotization of 4-aminoacetanilide and then second coupling with the product in (1) at 5-10° and pH of 6.5-7.5. Thus, 4-aminophenyl vinylsulfone was diazotized 1-naphthol-8-amino-3,6-disulfonic acid and then coupling with 1-naphthol-8-amino-disulfonic acid at 0-5°, and the product was coupling with diazotized 4-aminoacetanilide to obtain a **reactive blue dye** (II).

L11 ANSWER 2 OF 8 CAPLUS COPYRIGHT 2004 ACS on STN

AN 2002:555585 CAPLUS

DN 137:126419

TI Disperse-**reactive** azo **dyes** containing
acetoxylethylsulfonyl or vinylsulfonyl groups and their production

IN Oh, Sea Wha; Shin, Seung Rim; Kim, Tae Kyung;

Kim, Sun Il; Shin, Jong Il

PA Korea Research Institute of Chemical Technology, S. Korea

SO PCT Int. Appl., 29 pp.

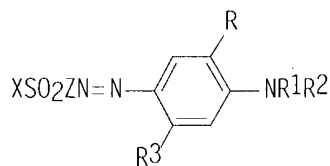
CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2002057370	A1	20020725	WO 2002-KR69	20020116
	W: CN, JP, US				
	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR				
	EP 1352032	A1	20031015	EP 2002-715901	20020116
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI, CY, TR				
	US 2004077846	A1	20040422	US 2003-466356	20030716
PRAI	KR 2001-2733	A	20010117		
	KR 2001-3009	A	20010118		
	KR 2001-4026	A	20010129		
	WO 2002-KR69	W	20020116		
OS	MARPAT 137:126419				
GI					



AB The invention relates to water-insol. disperse-**reactive** **dyes** (I; R, R1, R2, R3 = H, alkyl, alkoxy, cyanoalkyl, aminoacetyl; X = 2-acetoxyethyl, vinyl; Z = aromatic or benzothiazole connecting group) by diazotization of XS02ZNH2 and coupling with the appropriate substituted aniline. I have good fastness properties. In an example, orange (λ_{\max} 459 nm) 2-acetoxyethyl 4-aminophenyl sulfone-N,N-diethylaniline was prepared in 88.5% yield.

RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L11 ANSWER 3 OF 8 CAPLUS COPYRIGHT 2004 ACS on STN

AN 2001:91900 CAPLUS

DN 135:138631

TI Reactive dyeing of cotton in water-organic solvent mixture

AU Lim, Yong-Jin; **Kim, Tae-Kyung**; Cho, Kwang-Ho

CS Department of Dyeing and Finishing, College of Engineering, Kyungpook
National University, Sankyudong, Puk-ku, Taegu, 702-701, S. Korea

SO Sen'i Gakkaishi (2001), 57(1), 77-80

CODEN: SENGAS; ISSN: 0037-9875

PB Sen'i Gakkai

DT Journal

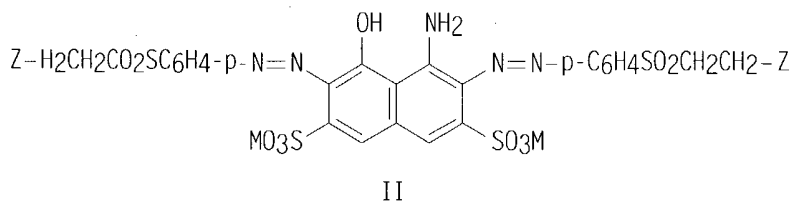
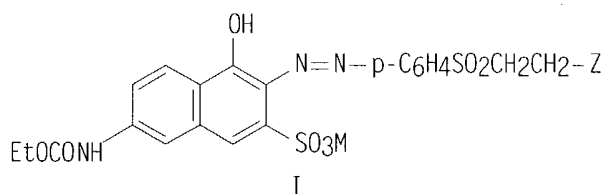
LA English

AB Cotton fabric was dyed with a **reactive dye** in water/CH₂Cl₂ 2-phase immiscible solvent media. To minimize **dye** loss due to its hydrolysis, the **reactive** dyeing was carried out in CH₂Cl₂ containing a small amount of water. With only 2 mL of water in 23 mL of CH₂Cl₂, 1 g of cotton fabric could be dyed perfectly. The uptake ratio increased greatly compared with that of normal **reactive** dyeing in a water medium. It would seem that the hydrophobic solvent, CH₂Cl₂, can assist the event dyeing as it disperses a small amount of **dye**-dissolved water phase and conveys this water phase to the fabric entirely and uniformly.

RE.CNT 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L11 ANSWER 4 OF 8 CAPLUS COPYRIGHT 2004 ACS on STN
 AN 1999:626284 CAPLUS
 DN 131:258869
 TI **Reactive black dye** compositions for cellulose fibers
 IN **Oh, Sea Wha**; Kang, Myeong Nyeo; **Kim, Tae Kyung**; Song,
 Mi Kyoung
 PA Korea Research Institute of Chemical Technology, S. Korea
 SO PCT Int. Appl., 18 pp.
 CODEN: PIXXD2
 DT Patent
 LA English
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9948987	A1	19990930	WO 1999-KR146	19990326
	W: CN, IN, JP, US				
	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	EP 1066351	A1	20010110	EP 1999-909386	19990326
	EP 1066351	B1	20020703		
	R: CH, DE, GB, LI				
	JP 2002507654	T2	20020312	JP 2000-537952	19990326
	JP 3487827	B2	20040119		
	US 6443997	B1	20020903	US 2000-646952	20001120
PRAI	KR 1998-10610	A	19980326		
	WO 1999-KR146	W	19990326		
OS	MARPAT 131:258869				
GI					



AB A **reactive black dye** composition with excellent several fastnesses, dyeing levelness, reproducibility and dyeing yield comprises a mixture with a certain amount ratio of an orange **reactive dye I** and a black **dye II** (Z = OSO3M, OAc; M = alkaline metal atom).

RE.CNT 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L11 ANSWER 5 OF 8 CAPLUS COPYRIGHT 2004 ACS on STN

AN 1999:626283 CAPLUS

DN 131:258868

TI **Reactive black dyes** containing acetoxyethyl sulfone moiety

IN **Oh, Sea Wha**; Kang, Myeong Nyeo; Shin, Seung Rim; **Kim, Tae Kyung**; Yun, Sung Nyung

PA Korea Research Institute of Chemical Technology, S. Korea

SO PCT Int. Appl., 19 pp.

CODEN: PIXXD2

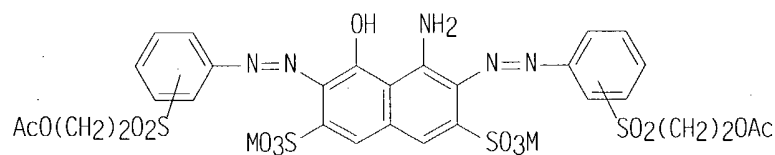
DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9948986	A1	19990930	WO 1999-KR144	19990326
	W: CN, IN, JP, US				
	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	EP 1066349	A1	20010110	EP 1999-909384	19990326
	EP 1066349	B1	20030611		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
	JP 2002507653	T2	20020312	JP 2000-537951	19990326
	US 6326474	B1	20011204	US 2000-646938	20001120
PRAI	KR 1998-10606	A	19980326		
	WO 1999-KR144	W	19990326		

GI



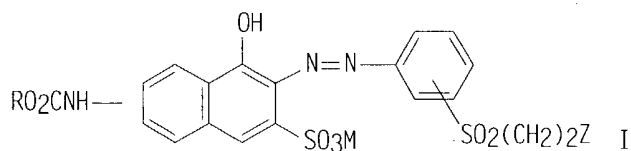
I

AB The black dyes I (M = alkaline metal atom) is characterized by lessening the loss of dyes in filtering process owing to the low solubility by introducing the aminophenyl- β -acetoxyethyl sulfone moiety, saving the cost for waste water treatment by using a small amount of salt in salting-out process and furthermore obtaining bright color with high dyeing yield and good substantivity.

RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L11 ANSWER 6 OF 8 CAPLUS COPYRIGHT 2004 ACS on STN
 AN 1999:626282 CAPLUS
 DN 131:258911
 TI **Reactive orange azo dyes** containing vinyl sulfone groups and their production
 IN **Oh, Sea Wha; Kang, Myeong Nyeo; Kim, Tae Kyung**
 PA Korea Research Institute of Chemical Technology, S. Korea
 SO PCT Int. Appl., 16 pp.
 CODEN: PIXXD2
 DT Patent
 LA English
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9948985	A1	19990930	WO 1999-KR142	19990326
	W: CN, IN, JP, US				
	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	EP 1066348	A1	20010110	EP 1999-909382	19990326
	EP 1066348	B1	20030102		
	R: CH, DE, GB, LI				
	JP 2002507652	T2	20020312	JP 2000-537950	19990326
	JP 3487826	B2	20040119		
PRAI	KR 1998-10607	A	19980326		
	WO 1999-KR142	W	19990326		
OS	MARPAT 131:258911				
GI					

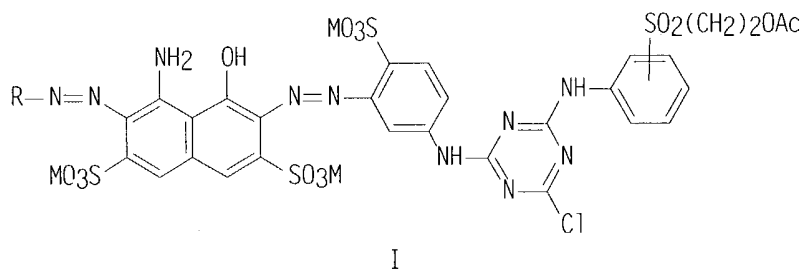


AB The present invention relates to **reactive orange dyes** containing vinyl sulfone groups and more particularly, to **dyes** which have 6(7)-(alkoxycarbonylamino)-4-hydroxy-2-naphthalenesulfonic acid as a chromophore and an aminophenyl β -substituted Et sulfone derivative as an azo coupler. The **dyes** (I; M = alkaline metal; R = C1-4-alkyl; Z = OSO3M, acetoxy) provide excellent fastness to light, washing, perspiration, and chlorine as well as better dyeing yield than other monofunctional **reactive dye**. Thus, 6-amino-4-hydroxy-2-naphthalenesulfonic acid was neutralized with LiOH and condensed with Et chloroformate to give a coupling component to which was then added diazotized 4-aminophenyl β -Et sulfone to provide an orange **dye**.

RE.CNT 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L11 ANSWER 7 OF 8 CAPLUS COPYRIGHT 2004 ACS on STN
 AN 1999:626281 CAPLUS
 DN 131:258910
 TI **Reactive blue dyes** containing monochlorotriazine and
 acetoxyethyl sulfone groups and their production
 IN **Oh, Sea Wha**; Kang, Myeong Nyeo; **Kim, Tae Kyung**
 PA Korea Research Institute of Chemical Technology, S. Korea
 SO PCT Int. Appl., 21 pp.
 CODEN: PIXXD2
 DT Patent
 LA English
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9948984	A1	19990930	WO 1999-KR143	19990326
	W: CN, IN, JP, US				
	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	EP 1071727	A1	20010131	EP 1999-909383	19990326
	EP 1071727	B1	20020612		
	R: CH, DE, GB, LI				
	JP 2002507651	T2	20020312	JP 2000-537949	19990326
	US 6307033	B1	20011023	US 2000-646936	20001120
PRAI	KR 1998-10609	A	19980326		
	WO 1999-KR143	W	19990326		
GI					



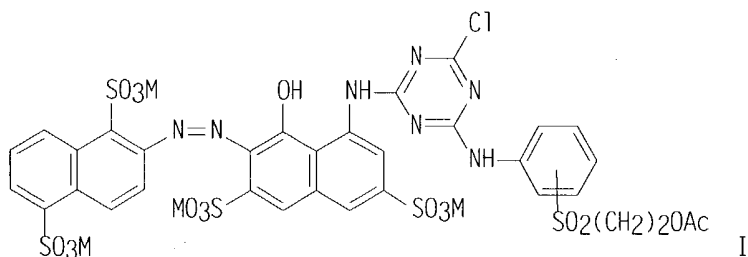
AB Bifunctional blue **reactive dyes** and more particularly, **dyes** with monochlorotriazine and 2-acetoxyethyl sulfone **reactive** groups (I; R = C₆H₄-p-SO₃M, M = alkaline metal atom) are prepared, which provide an excellent combination of properties in that (1) the introduction of aminophenyl β-acetoxyethyl sulfone group to the **dye** may minimize the loss of **dye**, since its low solubility in water lessens the amount of the remaining solution during filtration, (2) an easier salting-out process requires a smaller amount of salt during the process so that the costs for the treatment of waste water may be significantly reduced, and (3) a better dyeing yield with enhanced substantivity and better brightness in color. Thus, p-sulfanilic acid→1-naphthol-8-amino-3,6-disulfonic acid was prepared and coupled with the diazotized 1:1 adduct of m-phenylenediamine-4-sulfonic acid and cyanuric chloride and the resulting dichlorotriazinyl disazo compound was

condensed with 2-acetoxyethyl 4-aminophenyl sulfone to provide a blue reactive dye.

RE.CNT 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L11 ANSWER 8 OF 8 CAPLUS COPYRIGHT 2004 ACS on STN
 AN 1999:626280 CAPLUS
 DN 131:258909
 TI **Reactive red dyes** containing monochlorotriazine and
 acetoxyethyl sulfone groups and their production
 IN **Oh, Sea Wha**; Kang, Myeong Nyeo; Shin, Seung Rim; **Kim, Tae**
Kyung; Song, Mi Kyoung
 PA Korea Research Institute of Chemical Technology, S. Korea
 SO PCT Int. Appl., 20 pp.
 CODEN: PIXXD2
 DT Patent
 LA English
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9948983	A1	19990930	WO 1999-KR145	19990326
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	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
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	EP 1066344	B1	20020724		
	R: CH, DE, GB, LI				
	JP 2002507650	T2	20020312	JP 2000-537948	19990326
	US 6310187	B1	20011030	US 2001-646868	20010409
PRAI	KR 1998-10608	A	19980326		
	WO 1999-KR145	W	19990326		
OS	MARPAT 131:258909				
GI					



AB Bifunctional red **reactive dyes** and more particularly, **dyes** with monochlorotriazine and acetoxyethyl sulfone **reactive** groups (I; M = alkaline metal atom) are obtained, which provide excellent combination of properties in that (1) the introduction of an aminophenyl β -acetoxyethyl sulfone group to the **dye** may minimize the loss of **dye**, since its low solubility in water lessens the amount of the remaining solution during filtration, (2) an easier salting-out process requires a smaller amount of salt during the process so that the costs for the treatment of wastewater may be significantly reduced, and (3) a better dyeing yield with enhanced substantivity and better brightness in color. In an example, a 1:1 condensate of 1-naphthol-8-amino-3,6-disulfonic acid was used as a coupling component

with diazotized 2-amino-1,5-naphthalenedisulfonic acid diazo component and the resulting dichlorotriazine azo dye was condensed with 2-acetoxyethyl -4-aminophenyl sulfone to provide a red reactive dye.

RE.CNT 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

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